

**WHAT IS CLAIMED IS:**

1. An air pathway clearance device for wear on the neck of a user, comprising:

5 a support member, said support member having an inner surface, an outer surface and a peripheral edge;

securing means, said securing means carried by said support member and said securing means enabling retention of said support member on the neck of the user;

10 retention means, said retention means enabling retention of said securing means relative to said support member;

15 sealing means, said sealing means carried by said support member proximate to said inner surface of said support member, said sealing means enabling substantially airtight positioning of said support member against the neck of the user, and said sealing means generally protruding from said inner surface of said support member, thereby defining an air compartment between said support member and the neck of a user;

20 at least one valve, said valve carried by said support member, wherein said valve enables the exit of air from said air compartment.

2. The air pathway clearance device of Claim 1, wherein said

support member is generally arcuately shaped and is formed from substantially rigid material.

3. The air pathway clearance device of Claim 2, wherein said  
5 arcuate shape of said support member is adjustable.

4. The air pathway clearance device of Claim 1, wherein said support member is formed from substantially flexible material.

5. The air pathway clearance device of Claim 1, wherein said  
securing means is at least one strap and said retention means is hook  
and loop fastener.

6. The air pathway clearance device of Claim 1, wherein said  
securing means is at least one strap and said retention means is at  
least one buckle.

7. The air pathway clearance device of Claim 1, wherein said  
securing means is at least one strap and said retention means is at  
20 least one snap.

8. The air pathway clearance device of Claim 1, wherein said  
securing means is at least one strap and said retention means is at

least clasp.

9. The air pathway clearance device of Claim 1, wherein said  
securing means is at least one strap and said retention means is at  
5 least one magnet.

10. The air pathway clearance device of Claim 1, further  
comprising a cushioning material carried by said support member.

11. The air pathway clearance device of Claim 10, wherein said  
cushioning material substantially surrounds said peripheral edge of  
said support member.

12. The air pathway clearance device of Claim 1, wherein said  
sealing means is a rubber gasket.

13. The air pathway clearance device of Claim 1, further  
comprising a means for measuring performance.

14. The air pathway clearance device of Claim 13, wherein said  
means for measuring performance is a valve.

15. The air pathway clearance device of Claim 13, wherein said

means for measuring performance is electronic data collection instrumentation.

16. The air pathway clearance device of Claim 1, wherein said  
5 support member is formed from a plurality of linked segments.

17. A sleep apnea device for use on the neck of a user,  
comprising:

a neck cuff having a generally arcuate shape, a concave  
10 surface and a peripheral edge;

at least one strap carried by said neck cuff, said at least  
one strap having at least one strap fastener for securing the position  
of said neck cuff on the neck of the user;

a gasket, said gasket carried proximate to said concave  
15 surface of said neck cuff;

at least one vacuum regulator, said vacuum regulator carried  
by said neck cuff, wherein said vacuum regulator permits a  
unidirectional flow of air.

20 18. The sleep apnea device of Claim 17, further comprising a  
generally resilient border substantially covering said peripheral  
edge of said neck cuff.

19. The sleep apnea device of Claim 18, further comprising a data collection port.

20. The sleep apnea device of Claim 17, further comprising a pressure generating device, said pressure generating device assisting the unidirectional flow of air through said at least one vacuum regulator.

21. The method of treating sleep apnea comprising the steps of:

a. obtaining a sleep apnea device having a support member with an inner surface, at least one strap carried by said support member, at least one gasket carried proximate to said inner surface of said support member, and at least one valve carried by said support member;

b. placing said sleep apnea device on the neck of a user with said inner surface of said support member proximate to the outer surface of the neck of a user;

c. securing said at least one strap around the neck of a user;

d. forming a generally airtight seal between said gasket and the neck of a user, thereby defining a substantially airtight zone;

e. creating a negative pressure within said substantially airtight zone;

f. utilizing a vacuum resulting from said negative pressure to maintain open air passages for the user.

5

22. The method of treating sleep apnea of Claim 21, wherein said negative pressure is created by allowing air to escape from said substantially airtight zone through said valve, in self-regulated response to respiratory movement of the soft tissues of the neck of the user.

23. The method of treating sleep apnea of Claim 21, wherein said placement of said support member on the neck of a user is along the mandibular area and on the clavicular area.

24. The method of treating sleep apnea of Claim 23, wherein said support member extends over the frontal neck of the user without exerting pressure on the carotid body.

20